UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF NEW YORK

TAILORED LIGHTING, INC.,

Plaintiff,

v.

OSRAM SYLVANIA PRODUCTS, INC.,

Defendant.

04-CV-6435T

DECISION and ORDER

INTRODUCTION

Plaintiff Tailored Lighting, Inc. ("TLI"), as the assignee of United States Patent No. 5,666,017 (the "'017 Patent" or "the Patent"), brings this action pursuant to federal patent law, (codified at 35 U.S.C. § 100 et. seq.), claiming that defendant Osram Sylvania Products, Inc., ("Sylvania") has infringed Claims 1, 2, 3, 4, 9 and 19 of the '017 Patent by manufacturing and selling automobile headlamps, which, according to TLI, replicate certain lighting characteristics in the same manner as taught in the '017 Patent. In general, the '017 Patent teaches the manufacture and use of a light bulb, which, as a result of a special coating applied to the envelope of the bulb, emits light waves at wavelengths similar to wavelengths observed in certain daylight conditions. The inventor claims that the light produced by the bulb disclosed in the patent is superior to light emitted from traditional bulbs because the light from the disclosed bulb more closely approximates natural light at all visible wavelengths.

Sylvania now moves for summary judgment against TLI on grounds that TLI has: (1) failed to produce evidence that Sylvania's bulbs infringe upon the '017 Patent; (2) the '017 Patent is invalid because the Patent fails to meet the enabling requirement of a valid patent; and (3) the '017 Patent is anticipated by prior art which discloses the use of coatings adhered to lamp envelopes for the purpose of creating bulbs that emit light which approximates daylight. TLI opposes defendant's motion contending that it has produced substantial evidence of Sylvania's infringement of the '017 Patent; that the '017 Patent is enabled; and that the '017 Patent is not anticipated by prior art.

For the reasons set forth below, I find that the plaintiff has failed to prove that the defendant's bulbs infringe on the '017 Patent, and therefore, I grant defendant's motion for summary judgment. I further find that the patent is invalid for lack enablement.

BACKGROUND

On September 9, 1997, the United States Patent Office issued United States Patent 5,666,017, entitled "Daylight Lamp," to Kevin P. McGuire ("McGuire") as the inventor, and plaintiff TLI as the assignee. The Patent teaches a lamp that "produc[es] a special spectral light distribution which is substantially identical in uniformity to the spectral light distribution of a desired daylight throughout the entire visible light spectrum." See TLI's Brief in

Support of its Proposed Markman Construction at p. 1. As described in the Patent, such a lamp generally contains a lamp envelope comprised of an exterior surface, a light-producing element substantially centrally disposed within the lamp envelope, and a coating on the surface of the lamp envelope. Id. Typically, the lamp envelope is a glass or "bulb" enclosure and the light-producing element is a metal filament that, when excited by electrical energy, emits radiant energy at least throughout the entire visible spectrum. According to TLI, the coating on the surface of the lamp may be either a reflective or absorptive coating or both, with the light emitted by the filament that is not intended to be transmitted, being either reflected back to the filament or absorbed.

By Decision and Order dated September 24, 2007, pursuant to Markman v. Westview Instr., Inc., 517 U.S. 370 (1996), I construed the disputed terms of the '017 Patent. Familiarity with that decision is presumed, and construction of those terms informs my Decision below.

DISCUSSION

I. Summary Judgment Standard of Review

Rule 56(c) of the Federal Rules of Civil Procedure provides that summary judgment "should be rendered if the pleadings, the discovery and disclosure materials on file, and any affidavits show that there is no genuine issue as to any material fact and that the

movant is entitled to judgment as a matter of law." When considering a motion for summary judgment, all genuinely disputed facts must be resolved in favor of the party against whom summary judgment is sought. Scott v. Harris, 550 U.S. 372, 380 (2007). If, after considering the evidence in the light most favorable to the nonmoving party, the court finds that no rational jury could find in favor of that party, a grant of summary judgment is appropriate. Scott, 550 U.S. at 380 (citing Matsushita Elec. Industrial Co. v. Zenith Radio Corp., 475 U.S. 574, 586-587 (1986).

II. Infringement

To state a claim for patent infringement, the patent holder must establish that the accused infringer made, used, offered to sell, sold, or imported the patented invention within the United States during the term of the patent, and that he or she did so without authority. 35 U.S.C.A. § 271(a)(1994). Generally, an accused product will be found to infringe upon a patent if "each properly construed claim element reads on the accused product or process." Herbert F. Schwartz, Patent Law and Practice 167 (5th ed. 2006).

In the instant case, Sylvania claims that TLI has failed to produce evidence that Sylvania's bulbs read on each claim element of Claim 1 of the '017 Patent, and therefore, TLI can not establish infringement. Specifically, Sylvania argues that TLI has not produced any evidence that the coatings utilized by Sylvania on its

bulbs conform to the formula recited in Claim 1 of the '017 Patent, which formula purports to identify the proper transmittance level of the bulb based on several variables, including the color temperature desired, the amount of energy directed towards the envelope surface, and the radiance of lighting element used. TLI contends that it has provided ample evidence of infringement based on spectral analysis of the light output of Sylvania's accused bulbs. Specifically, TLI contends that the accused Sylvania bulbs have a spectral light output and a correlated color temperature that are substantially identical to a selected, desired daylight output at every wavelength within the visible spectrum. According to TLI, because the '017 Patent discloses spectral output that is substantially identical to a desired daylight output, and because the accused bulbs meet each limitation of the asserted claims, the Sylvania products infringe on the '017 Patent.

A. The Asserted Independent Claim

Claim 1 of the '017 patent is an independent claim, and the only independent claim asserted in this action. Claim 1 of the '017 Patent discloses:

> A lamp for producing a spectral light distribution substantially identical in uniformity to the spectral light distribution of a desired daylight with a color temperature of from about 3500 to about 10,000 degrees Kelvin throughout the entire visible light spectrum from about 380 to about 780 nanometers, comprising:
>
> (a) an enclosed lamp envelope having an

> interior surface and an exterior surface;
>
> (b) a light-producing element substantially centrally disposed within said lamp envelope and which, when excited by electrical energy, emits radiant energy throughout the entire visible spectrum with wavelengths from about 200 to about 2,000 nanometers at non-uniform levels of radiant energy across the visible spectrum; and
>
> (c) at least one coating on at least one of said surfaces and having a transmittance level in substantial accordance with the formula
>
> $T_{(l)} = [D_{(l)}-[S^*_{(l)}x(1-N)]] / [S_{(l)}x N]$
>
> wherein $T_{(l)}$ is the transmission of said envelope coating for said wavelength l from about 380 to about 780 nanometers, $D_{(l)}$ is the radiance of said wavelength for the desired daylight, $S_{(l)}$ is the radiance of said element at said wavelength at normal incidence to said lamp envelope, $S^*_{(l)}$ is the radiance of said element at said wavelength at non-normal incidence to said lamp envelope, and N is the percentage of visible spectrum radiant energy directed normally towards said exterior surface of said lamp envelope.

U.S. Patent 5,666,017, Claim 1

In my Markman decision, I held that based on the inventor's disclosure as set forth in the Specification of the '017 Patent, the term "substantially identical in uniformity to the spectral light distribution of a desired daylight" as used in Claim 1 disclosed "a total light output which, at each of the wavelengths between about 400 and 700 nanometers on a continuum, is within about 30 percent of the $D_{(l)}$ value [as determined by a specified formula] and wherein the combined average of all of said

wavelengths is within about 10 percent of the combined $D_{(1)}$ of all of said wavelengths.'" Tailored Lighting, Inc. v. Osram Sylvania Products Inc., 514 F.Supp.2d 417, 423 (W.D.N.Y., 2007)(quoting the '017 patent at Col. 6, lines 45-51.)

I further held that term "having a transmittance level in substantial accordance with the formula $T_{(1)} = [D_{(1)} - [S^*_{(1)} + (1-N)]]/[S_{(1)} + N]$" required that the "coating of the bulb transmit light energy that is in substantial accordance with the stated formula" where "$T_{(1)}$" "represents that portion of the electromagnetic radiation at each wavelength "l" that is transmitted through the coating. Tailored Lighting, Inc., 514 F.Supp.2d at 430.

As set forth in the formula, $T_{(1)}$ can be calculated by knowing the values of four variables: "$D_{(1)}$", "$S^*_{(1)}$", "$S_{(1)}$, and "(N)". In my Markman Decision, I held that the variable $D_{(1)}$ represents the radiance of a given wavelength for a desired daylight. Tailored Lighting, Inc., 514 F.Supp.2d at 430. The "desired daylight" is a spectra chosen by the maker of the bulb, based on the maker's preference for a particular type of daylight spectra. Id. The variable $S^*_{(1)}$ represents the electromagnetic radiation emitted by the lighting element used in the bulb at a given wavelength that is not emitted in the direction of the targeted area, but which still illuminates the target. Id. at 430-431. By contrast, $S_{(1)}$ represents the electromagnetic radiation emitted by the lighting element at a given wavelength that is emitted in the direction of

the target area to be illuminated. Id. at 430. Finally, N represents the percentage of electromagnetic radiation of the visible spectrum emitted by the lighting element in the direction of the area intended to be illuminated. Id. at 431.

B. Plaintiff has Failed to Produce Evidence that the Defendant's Accused Bulbs use a Coating with a Transmission Level that is determined by utilizing the Formula set Forth in the '017 Patent.

As stated above, generally, an accused product will be found to infringe upon a patent if "each properly construed claim element reads on the accused product or process." Herbert F. Schwartz, Patent Law and Practice 167 (5th ed. 2006). Although normally the question of whether or not a product infringes on a patent is a question of fact to be determined by the trier of fact, where there are no relevant facts in dispute, the question of literal infringement collapses into one of claim construction, "and is thus amenable to summary judgment. Athletic Alternatives, Inc. v. Prince Mfg., Inc., 73 F.3d 1573, 1578 (Fed. Cir. 1996).

In the instant case, defendant concedes (for purposes of this motion only) that the accused bulbs utilize, as taught by Claim 1 of the '017 Patent: (1) an enclosed lamp envelope having an interior surface and an exterior surface; (2) a light-producing element substantially centrally disposed within said lamp envelope and which, when excited by electrical energy, emits radiant energy throughout the entire visible spectrum with wavelengths from about 200 to about 2,000 nanometers at non-uniform levels of radiant

energy across the visible spectrum; and (3) at least one coating on at least one of the lamp envelope surfaces.

The defendant contests, however, TLI's claim that the coating used on the envelope of the accused bulbs conforms to the formula set forth in Claim 1 of the '017 Patent. Specifically, Sylvania argues that TLI has not produced any evidence of the $S^*_{(1)}$, or N values for the Sylvania bulbs, and therefore, as a matter of law and fact, can not establish that the coating used by Sylvania comports with the formula disclosed in Claim 1 of the 'Patent. TLI counters that measurements of the spectral output of the accused bulbs demonstrate that the bulbs emit light that is substantially similar to daylight at all visible wavelengths, and therefore, the accused bulbs necessarily utilize a coating which conforms to the formula set forth in Claim 1 of Patent, regardless of whether the $S^*_{(1)}$, or N variables can be individually ascertained or verified. TLI further argues that it has been able to calculate the values for $S^*_{(1)}$ and N as found in the accused bulbs through the use of additional mathematical formulae, and therefore, is able to demonstrate that the defendant's bulbs read on the formula disclosed in Claim 1 of the Patent. I find, however, that the plaintiff's inability to produce evidence of the actual values of the variables $S^*_{(1)}$, or N for the accused Sylvania bulbs is fatal to its claims of infringement. Because TLI can not establish actual values for two of the variables of the accused bulbs, it can not

establish that the coating of the bulbs conforms to the formula disclosed in Claim 1 of the '017 patent, and therefore can not establish infringement.

1. Plaintiff has failed to provide evidence of the actual "N" values of the accused bulbs.

Despite TLI's claims that it has identified the value of N for the accused bulbs, the named inventor of the lamp disclosed in the '017 Patent, Kevin McGuire, ("McGuire") who performed tests on the accused bulbs, testified that the value of N for the Sylvania bulbs was assumed. See February 20, 2008 Deposition of Kevin McGuire at p. 314-315. McGuire testified that he assumed a value for N based on "the nature of the material" he was testing, further explaining that the N value for an absorption coating is "typically . . . equal to one or something approximating one." Id. McGuire, who assigned a value of .99 to N for the accused bulbs provided no further basis for choosing such a value. Moreover, plaintiff's expert witness admitted that he did not make any independent determination of the N value for the accused bulbs, but instead relied on the assumptions made by McGuire. See Deposition Testimony of Dr. Mark Fairchild at p. 202. Because the plaintiff has failed to supply evidence of the actual value of N for the defendant's bulbs, and instead has only provided an assumed value, the plaintiff can not prove that the coating used by Sylvania actually reads on the formula disclosed in Claim 1 of the '017 Patent.

TLI provides a curious explanation of its inability to provide an actual N value for the defendant's bulbs. TLI contends that because N is "the percent of visible spectrum radiant energy directed normally towards the exterior surface of the lamp envelope . . . N is dimensionless and cannot literally be measured." See TLI's Memorandum of Law in Opposition to Defendant's Motion for Summary Judgment at p. 7. If, however, N were dimensionless, it would not be measurable, and as such, could not represent a value in any equation, a result which would render the equation found in Claim 1 of the '017 Patent meaningless. Similarly, if N does have a dimension, but its value is incapable of being scientifically calculated, the formula would again be meaningless, because there would be no way to create a coating using the formula, and for purposes of infringement analysis, no way to test for infringement.

But as this court has defined N (meaning the percentage of electromagnetic radiation of the visible spectrum emitted by the lighting element in the direction of the area intended to be illuminated) N can be calculated simply by determining what portion of the total amount of electromagnetic radiation emitted by the lighting element is directed towards the area intended to be illuminated. That portion of radiation directed toward the target would constitute a percentage of the total amount of electromagnetic radiation emitted by the lighting element, and would constitute the N value. Because TLI has failed to establish

the N values for the accused bulbs, it is unable to establish that the coating used by Sylvania reads on the formula recited in Claim 1 of the '017 Patent.

TLI further contends that its assumption for the value of N is appropriate because the assumption is accepted by those with skill in the art of making light bulbs with daylight coatings. According to TLI, because the assumption is reasonable, TLI need not prove the actual value of N for the accused bulbs. TLI further argues that because Sylvania has failed to establish that the assumed value for N is invalid or inaccurate, it can not attack the assumption made by TLI for the value of N.

TLI, however, has failed to establish the basis for assuming the value of N for the Sylvania bulbs to be a number that approaches 1. TLI admits that its expert did not independently determine N, either through observation or calculation. See TLI's Memorandum of Law in Opposition to Defendant's Motion For Summary Judgment at p. 9-10 ("Dr. Fairchild testified that there was no reason for him to determine N independently . . . ."). The inventor of the '017 Patent testified that he selected a value for N that approached 1 based on "the nature of the material" (an absorption coating) that he was testing. Such evidence does not establish that the assumptions made by TLI for the N value of Sylvania's bulbs is scientifically valid. Similarly, TLI's contention that the assumed value of N that it selected is proven

by mathematical formulae is without merit. The formulae relied on by TLI for determining N is based on assumed and calculated values, and thus fails to prove what the actual value of N is for the accused bulbs. Finally, because the burden of proof is on the plaintiff to prove infringement, Sylvania is not required to produce evidence that the assumed values for N are different than the actual N value of its bulbs. Rather the burden of proof is on TLI to establish all of the values for the variables as found in the accused bulbs, and then demonstrate that when the values are calculated via the equation, the accused bulbs practice the formula set forth in Claim 1 of the Patent. TLI has made no such showing.

2. Plaintiff has failed to provide evidence of the actual "$S^*_{(1)}$" values of the accused bulbs.

As stated in my Markman Decision, $S^*_{(1)}$ is defined as "the measurement of the electromagnetic radiation at the same wavelength 'l' emitted by the [lighting] element not in the direction of the targeted area, but still illuminating the target. Tailored Lighting, Inc., 514 F.Supp.2d at 430-431. TLI, however, in determining the value of $S^*_{(1)}$ for the accused bulbs, has not measured the actual electromagnetic radiation emitted by the lighting elements of the accused bulbs, but instead has calculated the value based on a mathematical formula not disclosed in the '017 patent, and which utilizes an assumed value for one of the variables, and both calculated and actual values for other

variables. Accordingly, just as with the N value, TLI is unable to establish through measurement the actual $S^*_{(1)}$ values of the accused bulbs. Because it can not prove the $S^*_{(1)}$ of the accused bulbs, it can not establish that those bulbs actually practice the formula disclosed in Claim 1 of the '017 Patent.

3. Evidence that the accused bulbs produce light that is substantially similar to daylight does not establish infringement of the '017 Patent.

It is axiomatic that an inventor may not obtain a patent on a result, but instead may only patent a device or process for obtaining a result. Wheeling Stamping Co. v. Standard Cap & Molding Co., 155 F.2d 6, 8 (4th Cir. 1946) ("There can be no patent on a function or result, but only on a distinctive means of accomplishing this result.") "Patent infringement is not proved simply by showing that the accused device accomplishes or produces the same result, in whole or in part, as the device claimed in the patent. There is no patent on the result; the patent is awarded for a 'distinctive means of accomplishing the result.'" Jenkins Metal Shops, Inc. v. Pneumafil Corp., 303 F.Supp. 653, 657-658 (D. N.C., 1969) (quoting Westinghouse v. Boyden Power Brake Co., 170 U.S. 537, 569 (1898)); See also Marvin Glass and Associates v. Sears, Roebuck & Co., 318 F.Supp. 1089, 1105 (D.C. Tex., 1970) ("A function or a result is not patentable. It is the distinctive means for accomplishing the result which is patentable.")

TLI, however, argues repeatedly that analysis of the output of the Sylvania bulbs proves infringement because "the accused bulbs have infringing spectra and correlated color temperatures." See TLI's Memorandum of Law in Opposition to Defendant's Motion for Summary Judgment at p. 2. In TLI's Motion for Partial Summary Judgment, which it filed after the motion now under consideration by the court was filed, TLI again argues that "[b]ecause the [accused] bulbs produce a daylight spectral distribution, [in accordance with the spectral distribution of a bulb as set forth in the '017 patent], the Sylvania coatings necessarily have a transmittance in substantial accordance with the claimed formula. See TLI's Memorandum of Law in Support of its Motion for Partial Summary Judgment (docket item 215) at p. 8. Indeed, TLI's expert, Dr. Mark Fairchild, testified that if a bulb emitted light substantially identical to daylight, and was within 30% of daylight spectra from wavelengths of 400 to 700 nanometers, with a light producing element that emitted energy from 200 to 2000 nanometers, such a bulb would incorporate a coating that met the limitations of the formula set forth in Claim 1 of the '017 patent. See TLI's Memorandum of Law in Opposition to Defendant's Motion for Summary Judgment at p. 9 (citing Deposition Testimony of Dr. Mark Fairchild at pp. 229-230. Fairchild further stated in his Expert Report that "[I]f . . . a bulb produces a daylight distribution, has a tungsten filament, and a coated envelope, then its properties will

necessarily be described by the equation in claim 1. [of the '017 patent]." See October 27, 2007 Expert Report of Dr. Mark Fairchild at p. 7.

TLI contends that it has produced "values for every variable of the formula of claim 1 of the '017 Patent as related to the accused . . . products in at least the documents Bates numbered TLI02998-TLI03024, TLI03063-TLI03077, TLI03086-TLI03101 and TLI03108-TLI03123 . . . as well as TLI's Second Supplemental Response to Sylvania's First Set of Interrogatories, Nos. 3 and 6 . . . ." TLI's Memorandum in Opposition to Defendant's Motion for Summary Judgment at p. 5-6. A review, however, of the Bates numbered documents reveals that absolutely no values of the variables of the equation are even mentioned, no less revealed. The documents make no mention of the formula set forth in Claim 1 of the '017 Patent, do not identify any of the variables set forth in that equation, and do not identify the values for any of the "$S^*_{(1)}$", "$S_{(1)}$", or "N" variables.

Instead, these documents purport to show that the light emitted from the accused bulbs is substantially similar to a chosen daylight. Offering this evidence is consistent with TLI's misguided belief that because the accused bulbs produce a light that is similar to the light produced by the patented bulbs, the accused bulbs must infringe. As stated above, however, the '017 Patent does not, and cannot patent a result. Accordingly, proof

that the accused bulbs produce a light that is similar to the light produced by the patented bulb does not establish infringement absent proof that the accused bulbs use the same or equivalent means for producing a similar result. Without evidence that the coating of the bulb conforms to the formula set forth in Claim 1 of the '017 Patent (as well as proof that all other claim elements are met either literally or via an equivalent) TLI has failed to establish that the accused bulbs read on the formula of Claim 1 of the '017 Patent.

While Response no. 3 set forth in TLI's Second Supplemental Response to Sylvania's First Set of Interrogatories lists values for the variables $D_{(1)}$, $S^*_{(1)}$, $S_{(1)}$, or N for some of the defendant's accused bulbs, it is uncontroverted that the value of the N variable is assumed (as opposed to determined by measurement), and the value of the $S^*_{(1)}$ variable is not an observed or measured value, but instead is calculated by reference to the assumed N value, and to the calculated and measured transmittance values of a given lightbulb. Standing alone, the fact that the value of $S^*_{(1)}$ for an allegedly infringing bulb is based in part on an assumed value, and not itself measured, establishes that the plaintiff has failed to provide evidence that the coating of the accused bulbs conforms to the formula set forth in Claim 1 of the '017 Patent. More debilitating to TLI's argument, however, is the fact that TLI is unable to produce any evidence of the value for the $S^*_{(1)}$

variable of the accused bulbs without reference to the actual and calculated transmittance levels of the accused bulbs. By determining the $S^*_{(1)}$ value based in part on the transmittance level of the coating and an assumed value, the plaintiff is merely restating its argument that because its bulbs and the accused bulbs produce a similar light, the accused bulbs must infringe, and the plaintiff has merely used the transmittance level value to "reverse engineer" an $S^*_{(1)}$ value that would "prove" infringement. Because, however, the plaintiff has provided no evidence of the value of $S^*_{(1)}$ based on observation or measurement, plaintiff is incapable of establishing that the coating of the accused bulbs conforms to the formula of Claim 1 of the '017 Patent. I find that the plaintiff's inability to demonstrate that the coating found on the accused bulbs conforms to the formula set forth in Claim 1 of the '017 patent is fatal to plaintiff's claim of infringement.

Finally, TLI contends that the formula set forth in Claim 1 of the '017 "is representative of properties of a lamp and the emitted light from it and provides the guidance for creating a lamp . . . ." See TLI's Memorandum of Law in Opposition to Defendant's Motion for Summary Judgment at p. 13. Therefore, according to TLI, it is improper to read limitations into the formula that require each variable of the formula to be measured. Id. TLI argues that a limitation requiring that each variable of the formula be independently measured is neither required by the

'017 Patent nor consistent with this Court's previous Markman decision.

I find, however, that nothing in this Court's Markman decision suggests that TLI is not required to establish that the coating of the accused bulbs infringes on the '017 Patent by practicing any claim of the '017 Patent, and more specifically, reading on the formula set forth in Claim 1 of the Patent. Just as in any patent infringement case, the patent holder is required to prove that the alleged infringer has copied the means or methods disclosed in the patent for achieving a result. In the instant case, to establish that Sylvania has copied the patented invention disclosed in the '017 Patent, TLI is required to demonstrate that the coating used by Sylvania in its accused bulbs conforms to the equation set forth in Claim 1 for determining the transmittance level of the bulb. Because TLI relies on an assumed value for one of the variables of the formula (and thus cannot establish that the Sylvania bulb actually conforms to this value), and relies on a post-hoc calculation for another variable of the equation (again failing to establish that the accused Sylvania bulbs actually conform to the calculated value), TLI has failed to produce evidence that the accused Sylvania bulbs actually practice the formula set forth in Claim 1 of the '017 Patent, and as a result, has failed to establish infringement. Because TLI is unable to establish

infringement, I grant defendant's motion for summary judgment on the claim of infringement.

III. Validity

Despite having found that Sylvania has not infringed the '017 Patent, a finding that would typically obviate the need to address any remaining issues, the United States Supreme Court has stated that where a defendant in a patent action has brought a Counterclaim for a declaratory judgment on the issue of validity, it is the better practice for the court to resolve that claim, even if it has found non-infringement of the patent in suit. Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 330, (1945) (suggesting that, in the interests of finality, it is usually the better practice for a district court to decide validity even if it has found non-infringement); Cardinal Chem. Co. v. Morton Int'l, Inc., 508 U.S. 83, 93 (1993)(holding that where the defendant has brought a Counterclaim seeking a declaration of invalidity (as opposed to merely raising the issue as an affirmative defense) the district court should address the validity issue).

In the instant case, the defendant argues that the '017 Patent is invalid because it does not meet the enablement requirement for a valid patent. Specifically, Sylvania argues that because the patent does not sufficiently instruct a person skilled in the art of light-bulb manufacturing as to how to manufacture a light bulb

that produces a spectral output similar to daylight at all visible wavelengths, the patent is not enabled. Sylvania contends that the instructions are insufficient because the formula recited in Claim 1 of the '017 patent can not be followed by a bulb manufacturer to make the bulb described in the patent. Sylvania argues that because the N and $S^*_{(1)}$ variables either can not be measured, or can only be determined after an infringing bulb has been manufactured, the formula fails to guide a bulb maker as to what level of transmittance is required for the coating of the bulb.

35 U.S.C. § 112 provides in relevant part that the specification of a patent:

> shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

"To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.'" Genentech Inc. v. Novo Nordisk A/S, 108 F.3d 1361, 1365 (Fed.Cir.1997)(quoting In re Wright, 999 F.2d 1557, 1561 (Fed.Cir.1993)). The determination of whether or not a patent is enabled is a question of law based on factual determinations. Boston Scientific Corp. v. Johnson & Johnson Inc., 679 F.Supp.2d 539, 552 (D.Del., 2010).

In the instant case, I find that the '017 Patent does not meet the enablement requirement of 35 U.S.C. § 112 because the specification fails to adequately describe how to make a bulb coating with a transmittance level that will achieve the desired results of the patented invention: a bulb which produces a spectral light distribution that is similar to a desired daylight. The '017 Patent claims as novel the ability to create a bulb with a spectral light distribution that is substantially similar to a desired daylight at every wavelength in the viewable spectrum. The Patent further purports to disclose the method for obtaining that result. According to the '017 Patent, the result can be obtained by, inter alia making a coating for the bulb that has transmittance characteristics that are in substantial conformity to the formula $T_{(1)} = [D_{(1)}-[S^*_{(1)}x(1-N)]] / [S_{(1)}x N]$. As stated above, however, the plaintiff has conceded that the N value of a bulb can not be measured, and instead can only be assumed, and the $S^*_{(1)}$ value can not be measured, but can only be calculated after a coated bulb has been manufactured.[1] The person attempting to make the bulb can then only engage in trial and error to see if he or she can make a bulb with a coating that emits a light that is substantially

[1] Plaintiff admits that a person seeking to solve the formula of Claim 1 could not actually ascertain the actual values of N and $S^*_{(1)}$, but instead, would only be able, through experimentation, be able to speculate as to the "optimal" levels for the unknown variables. Plaintiff's Memorandum of Law in Opposition to Defendant's Motion for Summary Judgment at p. 8.

similar to a desired daylight. Should the maker be successful in doing so, only then can the maker work backwards to determine whether or not the coating of the bulb comports to the formula disclosed in Claim 1. Because the '017 Patent does not describe how to ascertain the appropriate transmittance level for the coating in a manner that can be followed by a person skilled in the art of bulb making, the Patent is not enabled.

CONCLUSION

For the reasons set forth above, I find that the plaintiff has failed to establish that the defendant's accused bulbs infringe on the asserted claims of the '017 Patent. Specifically, plaintiff has failed to establish that the defendant's accused bulbs read on the formula disclosed in Claim 1 of the '017 Patent, and as a result, has failed to establish that the accused bulbs achieve the same result of the bulbs disclosed in the '017 by using the same or equivalent means or structures. I further find that because the formula disclosed in Claim 1 of the '017 Patent fails to enable a person skilled in the art of bulb making to make a coating that conforms to the formula, Claim 1 of the '017 Patent is invalid. Based on these findings, I grant defendant's motion for summary judgment, and declare Claim 1 of the '017 Patent invalid.

ALL OF THE ABOVE IS SO ORDERED.

s/Michael A. Telesca
MICHAEL A. TELESCA
United States District Judge

Dated: Rochester, New York
May 14, 2010